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FIREFIGHTER III OBJECTIVES

USING THIS SECTION

This section should be copied and given to the students for their use. Objective numbers followed by an "*" are to be taught; however, because of their nature, lesson plans and/or skill sheets are not provided. All other objectives are provided with lesson plans and skill sheets as part of this manual.

Level: Firefighter III

Section: General/Orientation (4-2)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives and identify all reference materials used in the training program.

3-1.1. Identify the Firefighter III's role as a member of the organization. (4-2.1)

3-1.2. Identify the function of each of the bureaus of a large fire department.

3-1.3. Identify the functions of the staff and line positions in a fire department.

3-1.4. Identify National, State, and Local Standards as they apply to the Fire Department.

3-1.5. Identify the responsibilities of the firefighter in assuming command within an incident management system. (4-2.2)

3-1.6. Identify the responsibilities of the firefighter in transferring command within an incident management system. (4-2.2)

( ) Indicates reference to NFPA 1001-1992

Level: Firefighter III

Section: Fire Behavior (4-5)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives and identify all reference materials used in the training program.

3-2.1. Identify the effects of heat and pressure on confined gases.

- 3-2.1.1. Charles Law
- 3-2.1.2. Boyles Law
- 3-2.1.3. Heat of compression

3-2.2. Identify the fuel characteristics of ground cover fires.

3-2.3. Identify factors of ground cover fires affecting fire behavior.

3-2.4. Identify the following units of heat measurement (4-5.1)

- 3-2.4.1. British thermal unit (BTU)
- 3-2.4.2. Fahrenheit (°F)
- 3-2.4.3. Celsius (°C)
- 3-2.4.4. Calorie (C)

3-2.5. Identify the hazard of finely divided fuels as they relate to the combustion process. (4-5.2)

3-2.6. Identify the following terms: (4-5.3)

- 3-2.6.1. Flash point
- 3-2.6.2. Fire point
- 3-2.6.3. Ignition temperature.
- 3-2.6.4. Law of Specific Heat
- 3-2.6.5. Latent heat of vaporization

3-2.7. Identify two of each of the following heat sources: (4-5.4)

- 3-2.7.1. Chemical
- 3-2.7.2. Mechanical
- 3-2.7.3. Electrical energy

3-2.8. Identify the general fire behavior expected with each type of building construction, including the spread of fire and the safety of the building, occupants, and firefighters. (4-23.2)

( ) Indicates reference to NFPA 1001-1992

Level: Firefighter III

Section: Portable Extinguishers (4-6)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

No requirements exist for the topic in NFPA 1001-1992.

Level: Firefighter III

Section: Self-Contained Breathing Apparatus (4-7)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

3-3.1. Identify the four major components of a self-contained breathing apparatus recharging system, giving purpose, and operating principles as described in IFSTA.

3-3.2. Identify the procedures for emergency escape from fire contaminated and other toxic atmospheres when self-contained breathing apparatus malfunctions or is damaged, to include:

a). Breathing from low-pressure hose.
b). Tank breathing.
c). Special breathing techniques.

3-3.3. Identify the procedures for using self-contained breathing apparatus in special rescue or unusual working conditions, such as:

a). Areas of confinement or limited entry.
b). In conjunction with special protective clothing such as encapsulated suits.
c). High/low temperatures.

3-3.4. Identify the safety procedures to be used when wearing and working with self-contained breathing apparatus, to include:

a). General safety considerations.
b). Monitoring of firefighters entering hazardous situations.
c). Maintenance and storage operations.

3-3.5. Identify the functions of the human respiratory and circulatory systems, and the effects of stress and toxic substances on them.

Level: Firefighter III

Section: Personal Safety (4-3)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

3-4.1. Identify applicable local, state/provincial and federal laws and regulations related to occupational health and safety. (4-3.1)

3-4.2. Identify the essential components of, and responsibility for, a comprehensive fire department safety program.

3-4.3. Identify driving techniques which provide for the safety of personnel and apparatus enroute to and returning from emergency and non-emergency responses.

3-4.4. Identify state and local traffic laws and their application to emergency response of fire and other emergency vehicles.

3-4.5. Identify the special hazards associated with fire fighting and other emergency operations involving the following:

3-4.5.1. Electrical distribution systems and equipment.
3-4.5.2. Radiological problems.
3-4.5.3. Flammable gas/vapor.

3-4.6. Demonstrate the service and maintenance of portable power plants and lighting equipment. (4-3.2)

3-4.7*. Demonstrate safe operation of a total of twelve types of hand and power tools used for forcible entry, rescue and ventilation. (4-3.3)

( ) Indicates reference to NFPA 1001-1992

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Level: Firefighter III

Section: Ladders (4-11)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

3-5.1. Identify the materials used in ladder construction. (4-11.1)

3-5.2. Identify the load capacities established by NFPA 1931 and NFPA 1904 for ground and aerial ladders. (4-11.2)

3-5.3. Demonstrate the following special ladder raises:

3-5.3.1. Dome/auditorium raise.
3-5.3.2. Hotel/factory raise.
3-5.3.3. Obstructed raises.

3-5.4. Demonstrate the following special uses of fire department ground ladders:

3-5.4.1. Hinge for lowering victims.
3-5.4.2. Bridging operations.
3-5.4.3. Salvage and overhaul operations.
3-5.4.4. Pumping operations.

3-5.5. Demonstrate the procedure for cleaning ladders. (4-11.3)

3-5.6. Demonstrate inspection procedures for different types of ground and aerial ladders as described in IFSTA. (4-11.4)

3-5.7. Demonstrate maintenance procedures for different types of ground and aerial ladders as described in IFSTA. (4-11.4)

3-5.8. Identify the procedures for conducting the annual service test for ground ladders. (4-11.5)

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Level: Firefighter III

Section: Fire Hose, and Appliances (4-12)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

3-6.1. Identify the adapters and appliances to be used in three specific fire ground situations. (4-12.2)

3-6.2. Demonstrate the annual service test for fire hose. (4-12.4)

3-6.3. Demonstrate the procedures for cleaning and maintaining fire hose. (4-12.3)

3-6.4. Demonstrate the procedures for cleaning and maintaining couplings. (4-12.3)

3-6.5. Demonstrate the procedures for cleaning and maintaining nozzles. (4-12.3)

3-6.6. Demonstrate the procedures for inspecting couplings for damage. (4-12.3)

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Level: Firefighter III

Section: Ropes (4-10)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

3-7.1. Identify the appropriate size, strength, type and length of rope to accomplish a fire fighting or rescue task requiring the use of rope. (4-10.1)

3-7.2. Given a fire fighting or rescue task requiring the use of rope, identify the appropriate knot. (4-10.2)

( ) Indicates reference to NFPA 1001-1992

Level: Firefighter III

Section: Water Supply (4-19)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

3-8.1. Identify the pipe sizes used in water distribution systems for residential, business and industrial districts. (4-19.10)

3-8.2. Identify the following terms as they relate to water supply: (4-19.4)

3-8.5.1. Head Pressure
3-8.5.2. Static Pressure
3-8.5.3. Residual Pressure
3-8.5.4. Flow Pressure
3-8.5.5. Normal Operating Pressure
3-8.5.6. Friction Loss

3-8.3. Identify the following types of water main valves. (4-19.5)

3-8.6.1. Indicating
3-8.6.2. Non-indicating

3-8.4. Identify two causes of increased resistance or friction loss in water mains. (4-19.11)

3-8.5. Given a Pitot tube and gauge read and record flow pressures from three different size orifices. (4-19.9)

3-8.6. Identify apparatus, equipment and appliances required to provide water at rural locations by relay pumping. (4-19.7)

3-8.7. Identify apparatus, equipment and appliances required to provide water at rural locations by a mobile water supply apparatus shuttle. (4-19.7)

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Level: Firefighter III

Section: Forcible Entry (4-8)

Presently, NFPA does not specify any objectives for Firefighter III.

Level: Firefighter III

Section: Overhaul (4-16)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives and identify all reference materials used in the training program.

3-9.1. Identify five indicators of structural instability. (4-16.2)

3-9.2. Identify the precautions and procedures to be followed when overhauling. (4-16.1)

3-9.3. Identify the procedures for restoration of the premises after a fire. (4-16.4)

( ) Indicates reference to NFPA 1001-1992.

Level: Firefighter III

Section: Nozzles and Fire Streams (4-12,4-13 & 4-14)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives and identify all reference materials used in the training program.

3-10.1. Identify the major parts of a fog nozzle.

3-10.2. Identify the water flow through various types of fog nozzles.

3-10.3. Identify the rate of water flow necessary to control fire in a room of specified volume. (4-12.6)

3-10.4. Identify the advantages and disadvantages of solid stream and fog nozzles. (4-12.7)

3-10.5. Identify the operation of fog and solid stream nozzles. (4-12.5)

3-10.6. Identify methods of preventing damage to a nozzle and associated equipment.

3-10.7. Identify the safe procedures in the handling of fire hose and directing fire streams.

3-10.8. Given three different fire situations, identify the proper nozzle and hose for fire attack. (4-12.1)

3-10.9. Identify the four methods by which foam prevents or controls a hazard. (4-13.1)

3-10.10. Identify the principle by which foam is generated. (4-13.2)

3-10.11. Identify common causes for the poor generation of foam and identify the procedures for correcting each. (4-13.3)

3-10.12. Identify the difference between hydrocarbon and polar solvent fuels and identify the type of foam concentrate required for each fuel. (4-13.4)

3-10.13. Identify the advantages, characteristics and precautions for use of the following types of foam: (4-13.5)

3-10.13.1. Protein
3-10.13.2. Fluoroprotein
3-10.13.3. Film Forming fluoroprotein
3-10.13.4. Aqueous film forming foam
3-10.13.5. Hazardous materials vapor mitigating foam
3-10.13.6. Medium and High expansion foam
3-10.13.7. Class A foams

3-10.14. Identify the precautions that must be taken when using high expansion foam to attack structural fires. (4-13.6)

3-10.15. Demonstrate the operation of fog nozzles. (4-12.5)

3-10.16. Demonstrate the operation of solid stream nozzles. (4-12.5)

3-10.17*. Extinguish or control the following live fires working as a member of a team using the appropriate protective equipment, fire fighting tools and extinguishing agents. (4-14.1)

3-10.17.1. An exterior combustible liquid fire at least 100 square feet using a foam fire stream.
3-10.17.2. A fire in an elevated location within a structure
3-10.17.3. A hidden fire within a structure
3-10.17.4. A fire involving energized electrical components.
3-10.17.5. A fire involving a flammable gas cylinder (exterior)
3-10.17.6. A fire in a below grade area or other location requiring initial attack from above.

3-10.18. Demonstrate the procedures for inspecting nozzles for damage. (4-12.3)

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Level: Firefighter III

Section: Ventilation (4-9)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

3-11.1. Identify the stack effect.

3-11.2. Identify the manual and automatic venting devices found within structures. (4-9.1)

3-11.3. Identify the operations and considerations necessary to control the spread of smoke and fire through duct systems, including: (4-9.2)

- 3-11.3.1. Determining location and routing of ducts
- 3-11.3.2. shutting down systems to prevent spread of heat and smoke
- 3-11.3.3. Examining duct system after thorough ventilation
- 3-11.3.4. Checking false ceilings or framing enclosing duct systems
- 3-11.3.5. Checking duct system outlets
- 3-11.3.6. Determining if duct system has openings, smoke dampers or smoke detectors.

3-11.4. Identify considerations that must be made when determining the location and size of a ventilation opening including: (4-9.3)

- 3-11.4.1. Availability of openings
- 3-11.4.2. Location of fire
- 3-11.4.3. Direction in which fire will be drawn
- 3-11.4.4. Type building construction
- 3-11.4.5. Wind direction
- 3-11.4.6. Progress of the fire
- 3-11.4.7. Condition of the building
- 3-11.4.8. Obstructions
- 3-11.4.9. Relative efficiency of large vs small openings

3-11.5. Identify fire ground situations where forced ventilation procedures may be required. (4-9.5)

( ) Indicates reference to NFPA 1001-1992

Level: Firefighter III

Section: Rescue (4-18)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

3-12.1. Identify the techniques and safety procedures applicable to the following rescue activities: (4-18.1)

- 3-12.1.1. Structural collapse
- 3-12.1.2. Trench collapse
- 3-12.1.3. Caves and tunnels
- 3-12.1.4. Water & ice emergencies
- 3-12.1.5. Elevators and escalators
- 3-12.1.6. Emergencies involving energized electrical lines
- 3-12.1.7. Industrial accidents
- 3-12.1.8. Other hazards particular to the local jurisdictions

3-12.2*. Demonstrate the use of the following rescue tools: (4-18.2)

- **3-12.2.1. Cribbing and shoring material**
- **3-12.2.2. Block and tackle**
- **3-12.2.3. Hydraulic devices**
- **3-12.2.4. Pneumatic devices**
- **3-12.2.5. Ratchet devices**

3-12.3*. Demonstrate the following evolutions, which may be required to extricate an entrapped victim of a motor vehicle accident by displacing the following: (4-18.3)

- **3-12.3.1. Vehicle roof**
- **3-12.3.2. Vehicle door**
- **3-12.3.3. Vehicle windshield**
- **3-12.3.4. Steering wheel**
- **3-12.3.5. Steering column and dashboard**

3-12.4. Demonstrate raising and lowering a person a maximum of 20 vertical feet with a rope rescue system. (4-18.4)

3-12.5. Identify the procedures for toxic and confined space rescue.

3-12.6*. Demonstrate self-lowering techniques from a height of 20 feet.

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Level: Firefighter III

Section: Communications (4-4)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

3-13.1. Identify the policy and procedures concerning the ordering and transmitting of multiple alarms and calls for special assistance from the emergency scene. (4-4.1)

3-13.2. Identify supervisory alarm equipment provided in the fire station. (4-4.2)

3-13.3. Identify the prescribed action to be taken upon receipt of designated signals on supervisory alarm equipment. (4-4.2)

3-13.4. Identify fire location indicators provided to direct fire fighters to specific locations in protected public or private properties. (4-4.3)

3-13.1*. Demonstrate the procedures concerning the ordering and transmitting of multiple alarms and calls for special assistance from the emergency scene. (4-4.1)

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Level: Firefighter III

Section: Sprinkler Systems (4-20)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

3-14.1. Identify the reliability of automatic sprinkler systems. (4-20.11)

3-14.2. Identify eight reasons for unsatisfactory performance of automatic sprinkler systems. (4-20.11)

3-14.3. Identify five sources of water supply for sprinkler systems. (4-20.1)

3-14.4. Identify two methods of determining water flow through a fire department connection check valve. (4-20.2)

3-14.5. Identify the location and appearance of the following control and operating valves of a sprinkler system: (4-20.3)

3-14.5.1. Outside screw and yoke (OS & Y)
3-14.5.2. Post indicator
3-14.5.3. Wallpost indicator

3-14.6. Identify the main drain valve on an automatic sprinkler system. (4-20.4)

3-14.7. Identify the dangers of the premature closure of a sprinkler main control valve. (4-20.6)

3-14.8. Identify the dangers of using hydrants to supply hose streams when the same water system is supplying the automatic sprinkler system. (4-20.6)

3-14.9. Identify the difference between an automatic sprinkler system that affords complete coverage and a partial sprinkler system. (4-20.7)

3-14.10. Identify the following types of sprinkler systems: (4-20.8)

3-14.10.1. Wet pipe
3-14.10.2. Dry pipe
3-14.10.3. Deluge
3-14.10.4. Residential

3-14.11. Identify obstructions to sprinkler heads and the required clearances.

3-14.12. Identify the automatic sprinkler requirements for rack storage.

3-14.13. Demonstrate opening and closing the main drain-valve on an automatic sprinkler system. (4-20.5)

3-14.14. Demonstrate reading and recording the indicated pressures on all gauges provided on a standard wet pipe automatic sprinkler system and identify each gauge. (4-20.9)

3-14.15. Demonstrate reading and recording the indicated pressures on all gauges provided on a standard dry pipe automatic sprinkler system and identify each gauge. (4-20.10)

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Level: Firefighter III

Section: Fire Prevention, Public Fire Education, and Fire Cause Determination. (4-22)

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives.

3-15.1. Identify local and state fire codes used during company inspections.

3-15.2. Identify the areas of responsibility of other municipal and state inspection agencies.

3-15.3. Identify that the fire extinguishers requirement for various occupancies.

3-15.4. Identify the fire exit requirements for different types of occupancies.

3-15.5. Identify the procedures to be used whenever fire hazards, or suspected fire hazards, are encountered during inspections.

3-15.6. Identify the procedures for preparing a pre-fire plan.

3-15.7. Identify the duties and responsibilities of a fire fighter assigned to a fire prevention detail in places of public assembly.

3-15.8. Identify smoke, flame and heat-detection alarm systems. (4-22.9)

3-15.9. Identify target fire hazards commonly found in manufacturing, commercial, and public assembly occupancies. (4-22.10)

3-15.10. Identify the fire hazards commonly found in residential occupancies. (4-22.10)

3-15.11. Identify the human factors that result in electrical fires.

3-15.12. Identify standard types of chimneys and flues, and recognize deficiencies likely to cause fires. (4-22.11)

3-15.13. Identify how fire spreads through air conditioning and utility ducts.

3-15.14. Identify the functions of automatic and manual controls of air conditioning and utility ducts.

3-15.15. Identify code requirements covering the proper storage and use of flammable liquids and gases.

3-15.16. Identify school exit drill procedures. (4-22.4)

3-15.17. Identify life safety programs for the home. (4-22.5)

3-15.18. Identify common fire hazards and make recommendations for their correction. (4-22.6)

3-15.19. Identify responsibilities of the firefighter in determining the point of origin, cause, and protection of evidence in fires. (4-22.7)

3-15.20*. Demonstrate preparation a prefire plan that includes diagrams or sketches of a building to record the location of items of concern. (4-22.1)

3-15.21*. Demonstrate completing a State fire incident report and identify the importance of this information. (4-22.2)

3-15.22*. Demonstrate conducting a building fire safety survey and prepare a written report summarizing the results. (4-22.3)

3-15.23. Demonstrate inspecting fire protection standpipe systems for readiness, including visual inspection of hose, nozzles, hose outlet threads and fire department connections. (4-22.8)

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Level: Firefighter III

Section: Hazardous Materials (4-21)

1. Meet the requirements defined in NFPA 472, *Standard for Professional Competence of Responders to Hazardous Materials Incidents,* Section 2-3, First Responder Operational Level.

Level: Firefighter III

Section: Building Construction

Goal Statement: Upon completion of this subject, the student shall be able to fulfill the following objectives and identify all reference materials used in the training program.

3-16.1. Identify eight types of loads as they apply to building construction.

3-16.2. Identify the three types of loads that can be imposed on a building.

3-16.3. Identify the three ways materials can be loaded as they apply to building construction.

3-16.4. Identify eleven types of floor structures.

3-16.5. Identify six types of door construction.

3-16.6. Identify ten types of window construction.

3-16.7. Identify ten types of roof construction.

3-16.8. Identify the construction features of the following types of construction:

- 3-16.8.1. Mobile Homes
- 3-16.8.2. Prefabricated construction
- 3-16.8.3. Modular construction
- 3-16.8.4. Geodesic dome construction
- 3-16.8.5. Log homes
- 3-16.8.6. Agricultural-type buildings

( ) Indicates reference to NFPA 1001-1992